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T H E

# AMERICAN NATURALIST.

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## BRAZILIAN ROCK INSCRIPTIONS.

BY PROF. CH. FRED. HARTT.



It is a great shame that the antiquities of Brazil have so far received little or no attention, yet the country is one whose ethnology is extremely interesting, and it is very desirable that the history of its many tribes should be traced out. The neglect of Brazilian antiquities has arisen, no doubt, from the comparative rarity of the relics and the difficulty of exploring the country. Stone implements are found all over the empire, ancient pottery occurs in many localities, especially in burial stations, and Kjökkenmöddings exist on the coast as at Santa Cruz in the Province of Espiritu Santo, on the Bay of Rio de Janeiro, at Santos and elsewhere. But they have attracted very little attention, though they are occasionally mentioned by travellers.

During my expedition last summer to the Amazonas, I lost no opportunity of studying the antiquities of the country, and I was successful in collecting a few facts of importance. On the Rio Tocantins near the lower falls, I found figures engraved on rocks, and from the cliffs of the Serra do Ereré I copied a great number of rude figures and signs drawn in red paint. My good friend, Senhor Ferreira Penna, at Pará, was kind enough to give me a series of drawings from the Serra of Obidos, which locality I did not visit, together with the original MS. and drawings of a Government report on certain Indian drawings on the Rio Oyapock.

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I sent one of my assistants, Mr. Barnard, to examine a burial station on the Island of Marajó, and he brought me a small collection of pottery presenting some interesting features. In this article I shall confine myself to a description of the inscriptions I have collected, hoping in another article to describe the pottery and other relics.

The Tocantins inscriptions occur at Alcobaça, a point on the left bank of the river, near the first falls, and about one hundred miles from the mouth of the river. Here are exposed on the banks during the dry season beds of a fine-grained, very hard, dark red or brown quartzite, the strata having only a slight dip. Joints divide the beds into large blocks which often lie in place, but along a part of the shore they are piled up in confusion. During several months of the year, when the river is high, the locality is under water, as is the case with similar incised rocks at Serpa on the Amazonas. My guide told me that here were *letrados*, or Indian inscriptions, and I was fortunate enough, not only to find several, but to be able to bring away with me two small incised blocks. The figures are pecked into the rock by means of some blunt pointed instrument. They are so rude and irregular, that I see no reason why a pointed stone may not have answered the purpose. The grooves are usually wide and not very deep. Occasionally the unskilful hand missed its mark and marred the figure. These figures are usually cut on the sides of the blocks of rock and show much wear; many are hard to trace, and the majority are more or less covered by a shining black film of manganese deposited by the water. The surface of one of my specimens, Pl. 2, fig. 5, has a metallic lustre, like that of a well blackened stove.

Of these inscriptions, Pl. 2, fig. 1, which is about sixteen inches in length and is somewhat badly preserved, appears to represent a human figure, but it has a decapitated look. It may perhaps be intended to represent some lower animal. The position of the arms and legs conforms to the type of ordinary Indian representations of the human form, as we shall see further on.

The other figures are, for the most part, more or less complicated spirals. Pl. 2, figures 2, 4, 5, 7, and 11. One of these, Pl. 2, fig. 4, may represent the human face, the upper diverging lines being the eyebrows, the medial descending loop the nose, and the spiral the eyes. Equally rude representations of the face occur elsewhere.

About half a mile above the locality where the figures occur, I found on the upper surfaces of several masses of sandstone, places worn by grinding. Some of these were circular, about a foot in diameter, quite shallow, and with a convex prominence in the middle showing that a tool, probably a stone axe, had been ground with a circular motion. One of these hollows is represented in Pl. 2, fig. 6. Others were shallow, oval hollows, a foot or more in length, made by rubbing the tool backward and forward. I saw also a long, narrow, and rather deep groove worn in the same way, perhaps in the grinding of arrowheads. These grinding surfaces looked to me totally unlike those made in sharpening metal tools. It is important to note that on the Tocantins, this is almost the only place where sandstones occur. There is a great want of sharp sandstones suitable for whetstones or grindstones, not only on the Amazonas, but in Brazil generally, as I have already elsewhere remarked. This locality would be likely to be frequented by savages for the purpose of grinding and manufacturing stone implements. I saw no chips on the spot. It will be borne in mind that the locality is swept annually by floods.

At Jequerapuá, a few miles farther down on the same side of the river, I found on the rocks the spiral represented on Pl. 2, fig. 3, near which was a conical hole.

Engraved figures occur elsewhere in Brazil, on the lower part of the Rio de São Francisco (Williams and Burton), in the Province Parahyba (Koster), on the Rio Negro, etc.

The Serra do Ereré is situated on the northern side of the valley of the Amazonas at a distance of fifteen or more miles from the main river, but a short distance from the Rio Gurupatuba, a few miles west of the Villa de Monte Alegre. It is a narrow, very irregular ridge, about 800 feet high, running approximately east west, and about four to five miles long. The rock is sandstone in very heavy beds inclined to the southeastward. These sandstones form a broken line of cliffs running along the western side near the top, below which is a very irregular rocky slope. On these walls of rock, at and near the western end of the Serra, sometimes near their base, sometimes high up in conspicuous situations difficult of access, are great numbers of rude characters and figures, for the most part in red paint, some isolated, others in groups. Some rock surfaces are thickly covered with them, many being so washed by rains and defaced by fires as not to be traced out, others being

bright and fresh, suggesting that they were not all executed at the same time. Standing just in advance of the line of cliffs at some distance east of the western end of the Serra is a tall, tower-like mass of sandstone painted not only on the base but high up on the sides, while the cliffs behind and on both sides are covered with figures. All these localities are very conspicuous and some of them are so large as to be visible at the distance of more than a mile.

Not far from the eastern end of the Serra there is on top an enormous isolated mass of sandstone, the remains of a bed almost entirely removed, which mass is distinctly visible from the plain below on the northern side. The irregular western wall of this mass is covered with figures.

The drawings of Ereré comprise several classes of objects. The most important among these appear to be representations of the sun, moon and stars. At the western end of Ereré, on the cliff near the top, is a rude circular figure Pl. 4, fig. 17, nearly two feet in diameter. The general color is a brownish yellow. In the centre is a large ochre red spot, while around the circumference runs a broad border of the same color. Some of the civilized Indians at Ereré called this the sun, others the moon.

On a very prominent cliff some distance east of the tower-like mass of sandstone above described, is another similar figure about three feet in diameter. In this there is a central spot of brick red, then a broad zone of a dirty yellow, followed by a zone of brick red, outside which is another of a dirty ochre yellow. To the right of this are two smaller circular figures, in the upper of which the lines and centre are red, the innermost zone being of a dirty yellow tint. These figures are situated some ten feet from the foot of the cliff. Similar drawings, composed of two or more concentric circles with or without the central spot, occur in great numbers at Ereré. I am disposed to think that they are intended to represent the moon, since they are not furnished with rays.\* One figure, Pl. 4, fig. 2, on the cliff at the western end of the Serra, undoubtedly represents this heavenly body.† Besides the above forms there are rayed figures in abundance. Sometimes they con-

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\*I found a report afloat in Pará that some of these figures had been mutilated by Major Continho, Prof. Agassiz's companion on the Amazonas. The report is false, as the figures are not mutilated.

† Similar figures occur elsewhere. Seeman, *Memoirs Anthropol. Soc.*, London, Vol. ii, p. 279, gives two examples, one from Veraguas, New Grenada, another from England.

sist of a single circle, or several concentric circles, the outer one, only, being rayed, but on the side of the great rock on the top of the Serra is a figure a foot in diameter (Pl. 5, fig. 10), and very distinct, formed of two concentric circles, each with a few large, tooth-shaped rays. Part of this figure is obliterated. At the same locality is another figure consisting of a circle with serrated rays with only a spot in the centre.

Not infrequently, on the painted rock at the western end of the Serra, occur circles, single or double, sometimes nucleated, which bear rays only on the upper side, Pl. 5, fig. 12, Pl. 6, fig. 1. There are rayed spirals as well, Pl. 4, fig. 3. Some of these appear to represent stars. They are either drawn or impressed. In some cases the palm and fingers were covered with wet paint and then pressed upon the rock. Whether these figures always represent stars is doubtful. At the western end of the Serra is a curious rayed head, ornamented on top with what looks like a *queue*, suggesting a comet. At the same locality is the remarkable figure, Pl. 4, fig. 9, three and one-half feet high, which looks as though it might represent the impersonation of the sun. Just west of the tower-like mass is a rock face covered with a large group of what are apparently figures of the heavenly bodies. They are represented in Pl. 5, fig. 1, and are large and distinctly drawn. The whole group is some six or seven feet long. Of animate objects the human form and human face are very frequently delineated. They are all exceedingly rude and are just such figures as children are fond of drawing. Sometimes the body and limbs are represented each by a single line, as in Pl. 3, figures 3 and 8.

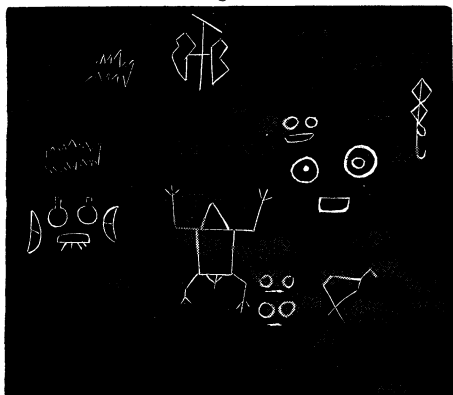
It is noticeable that human figures are never drawn in profile, which is the rule with similar drawings by North America Indians (Catlin). The eyes and mouth are usually alone represented, one eye being often smaller than the other. There is often no nose, or a heavy V-shaped curve is drawn over the eyes, the apex projecting down more or less between them, representing the nose, as in Pl. 3, fig. 1, Pl. 4, figures 12 and 15.

In some ancient pottery to be described in a future paper the same peculiarity is observable in the representation of the human head, the eyebrows and nose forming a prominent T-shaped ridge. As the most of the busts in terra cotta show the head flattened from before backward, I would suggest that the Indians who made

the drawings at Ereré, and the pottery in Marajó may have flattened the head as the Omaguas and Flatheads do to-day, which would give a greater prominence to the brows than in the normally shaped skull.

The stiff angular position of the arms and legs of the figures is interesting, the upper arms being held at right angles to the body, the forearm bent at a similar angle and usually upwards. The legs are wide apart, the thigh extending often straight out from the body. The figures are usually erect, but there is one on the west end of the Serra represented as lying on the side, Pl. 7, fig. 2. Below it is a figure of a snake, the whole appearing to commemorate the death of some one from snake-bite. Some of the heads are rayed as in the case of Pl. 3, fig. 1. These may perhaps represent the sun or moon. Some rough drawings of the

Fig. 42.



Group of Rock Paintings at Ereré.

human face are made on angular projections of the rock, as is the case with that figured in Pl. 4, fig. 10, where the sharp edge represented the nose. Another face is made by drawing lines around two contiguous, circular depressions, converting them into eyes, and drawing a straight line below for a nose.

It is interesting to observe that the hands and feet are always represented by radiating lines, usually only three digits being drawn for each hand and foot. The number of digits represented rarely reaches four, and never five, so far as I have observed. An explanation of this may perhaps lie in the fact that many tribes of Brazil are unable to count beyond three or four. Of the lower animals, several kinds are represented, but so rudely that it is, in most cases, difficult to determine the species. The large figure, Pl. 5, fig. 6, my Indian guide pronounced a *muçura*, a species of opossum, and he called the four-legged and long-tailed animals, Pl. 9, alligators. Birds appear to be rarely represented. On Pl. 9, are two figures, *b* and *d*, that may be intended for these ani-

mals. There are several drawings of the *guarauá*, or sea cow, Pl. 4, fig. 3 (?), Pl. 5, fig. 3, Pl. 7, fig. 7. Of fishes, there are two at least, Pl. 5, fig. 8, and Pl. 6, fig. 4. It is worthy of remark that there are no drawings of the dog, ox, or horse, and I have seen no figures of plants. Senhor Penna, in a MS., says that trees are sometimes represented, together with "canoes, oars, benches, and other objects of common use," but I have seen no such figures at Ereré, though they may occur elsewhere.

In the accompanying plates, I have given many examples of drawings of doubtful significance. The scroll, Pl. 4, figures 5 and 7, Pl. 5, fig. 4, Pl. 7, fig. 5, occurs frequently, and also the design Pl. 7, fig. 8, which varies somewhat in different drawings. The complicated rectilinear figure, Pl. 6, fig. 2, is painted on the side of the isolated rock mass on the top of the Serra and is about sixteen inches in height.\* The Greek fret occurs once or twice at Ereré and quite frequently on the Marajó pottery.

The red paint used in the inscriptions, is, I believe, annatto, perhaps also clay. It is very rudely smeared on the rough surface of the sandstone, sometimes when quite dry. There are some drawings in which the paint was laid on as a thin wash which dripped over the rock. I think the painting was largely done with the fingers. In some places the rock is soiled where the Indian assisted himself by the hand in climbing. The yellow color was prepared from clay.

The drawings of the Tocantins and of Ereré were carefully copied. The figures on the plates were transferred directly to the wood from my original sketches. I do not claim for them photographic accuracy, but I am sure they give faithfully the Indian idea. The original inscriptions are even more rude in finish than might be inferred from the plates. Precisely similar figures to those of the Tocantins and Ereré occur on the Rio Uaupés (Wallace) scraped on hard granitic (gneissic?) rock.

I have given on Pl. 9, accurate reductions of the copies of the figures on the Serra da Escama, kindly placed in my hands by Senhor Penna. A note, accompanying the sketches, says that the drawings were found on seven stones on the top of the Serra da Escama, about 400 bracas distant from the city of Obidos. The most of these are wholly unintelligible to me. One, fig. 2, appears to represent the sun, and another the moon or sun.

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\* In the plate the *right* is the *lower* side of this figure.

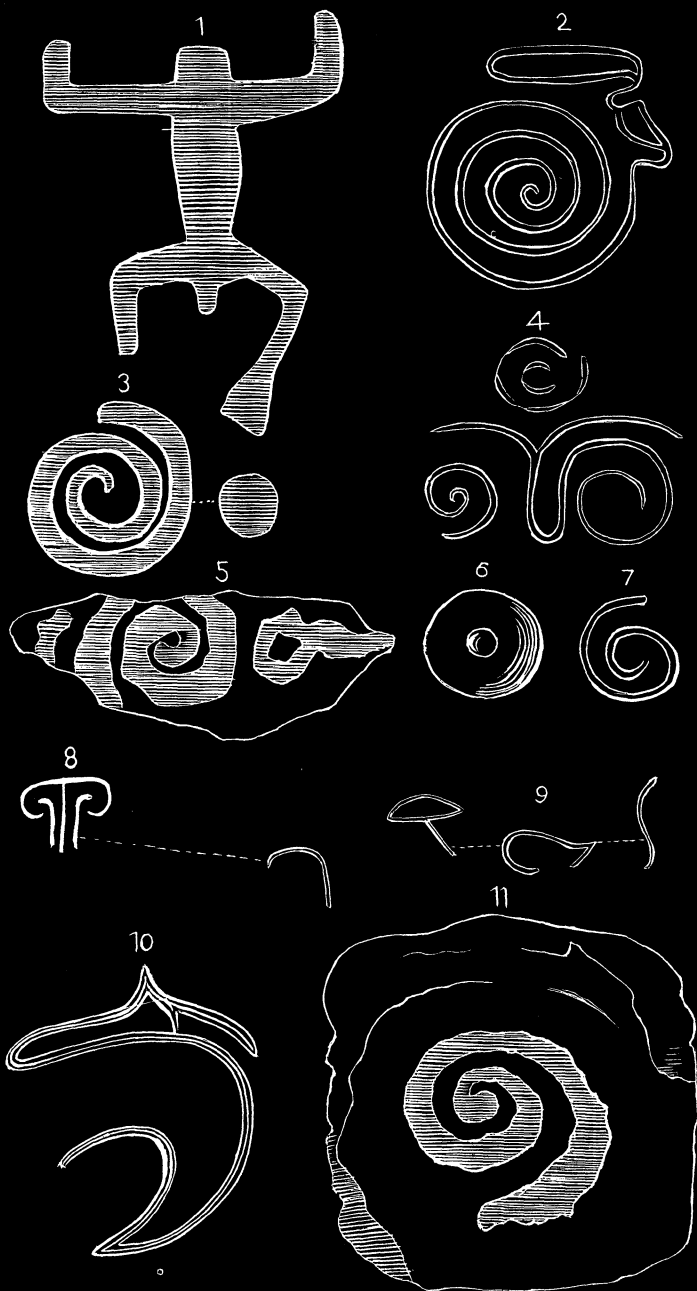


According to traditions, Bento Maciel, the first donatory of the ancient Capitania do Cabo do Norte, set up marks fixing the limits between his Captaincy and French Guayana, but these marks, when the boundary question afterward arose, could not be found. In 1727 the Captain, João Paes do Amaral, who had been on service in the north, reported having discovered them on the Rio Oyapock. So important was this announcement that the Governor of Pará immediately sent the Alferes Palheta with a party to report on the discovery. This expedition proved unsuccessful, and in 1728 another expedition under Captain Pinto da Gaya was sent out. This officer discovered the supposed marks on the top of a hill called Mont d'Argent and was disappointed to find them nothing but Indian drawings. These he had all carefully copied in ink, his drawings being submitted to the government, with his report. The original papers and sketches Senhor Penna has been so kind as to place in my hands. Of one of the sets of drawings I have made an accurate reduction on Pl. 10, by the aid of photography. Figures 2, 3, and 4, on the same plate, are from another set of sketches accompanying the above report. These figures resemble in many points Indian drawings from Brazil, but the square spiral recalls some Mexican ornaments.

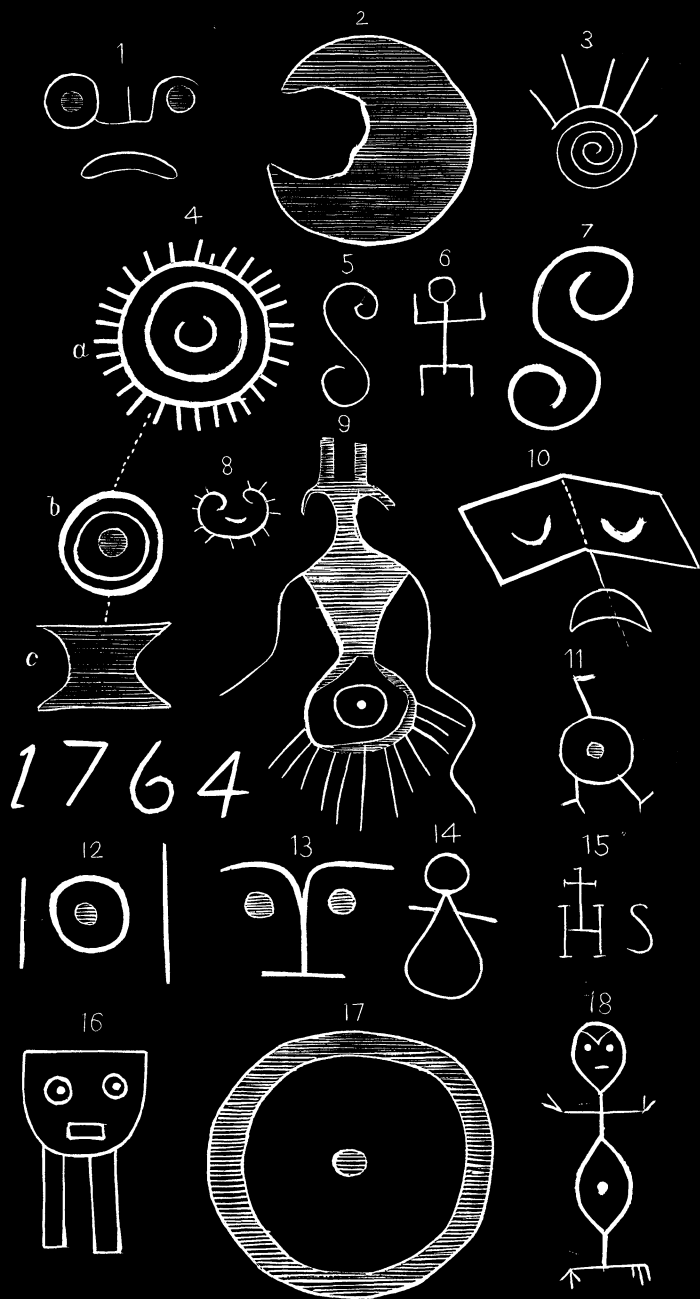
The antiquity of the rock paintings and sculptures of Eastern South America is undoubted, and they are mentioned by many of the ancient writers, as well as by Humboldt and others in more recent times. It is well known that the drawings of Ereré, and those of Obidos, about to be described, existed more than two hundred years ago. There can be no doubt that they antedate the civilization of the Amazonas, and there is a strong probability that some of them, at least, were drawn before the discovery of America.\* I hold it most probable that the rock paintings and sculpturings were made by tribes which inhabited the Amazonas previous to the Tupí invasion. The sculpturings are supposed to be older than the paintings. This is also, I believe, the opinion of Senhor Penna. I think the Ereré figures have a deep significance. A people that would go to so much trouble as to draw figures of the sun and moon high up on cliffs on the tops of mountains must

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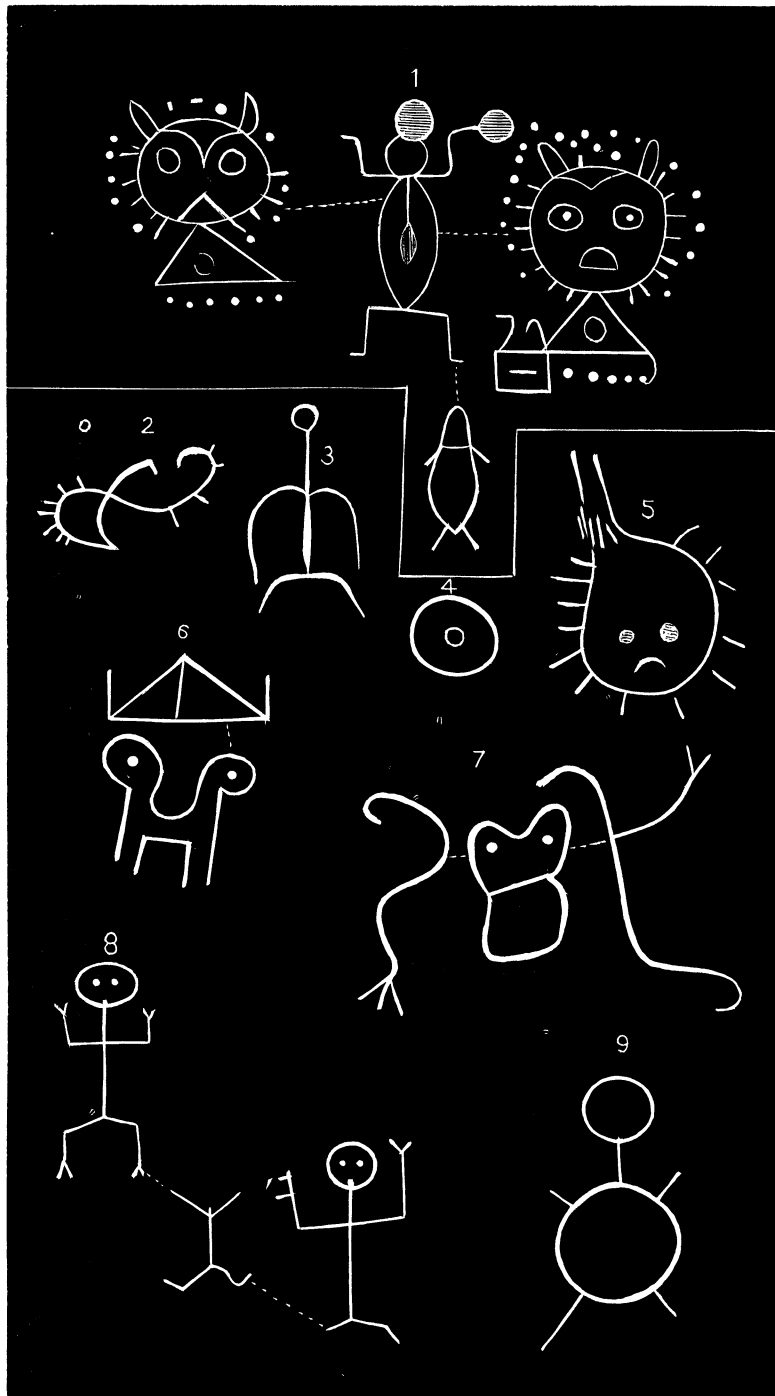
\*At Ereré occur the half obliterated sign, I. H. S., and the date 1764 (Pl. 4), evidently the work of the Jesuits. These last inscriptions are very fresh and are drawn in a lighter red on the lichen-blackened or whitened surface that obscures the older inscriptions.



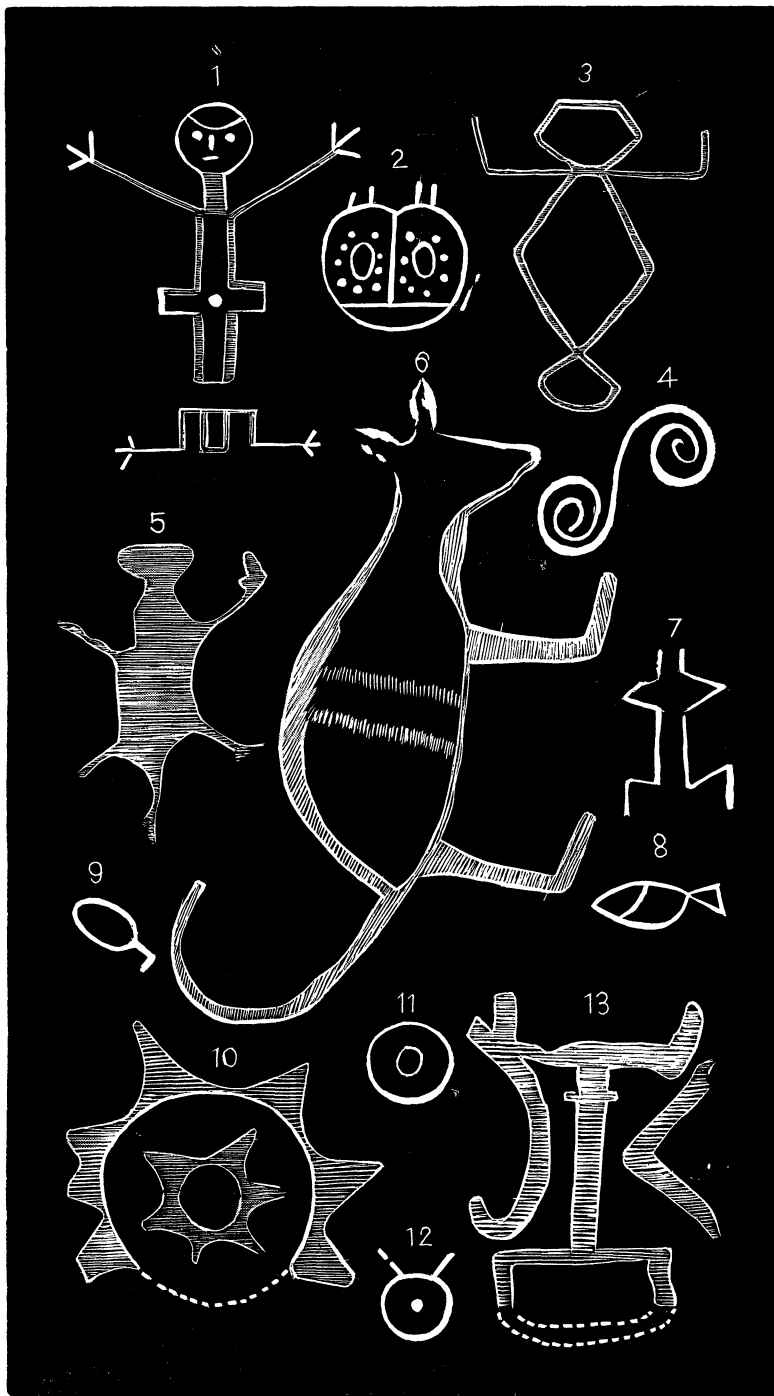
ENGRAVED FIGURES LOWÉ TOCANTINS.



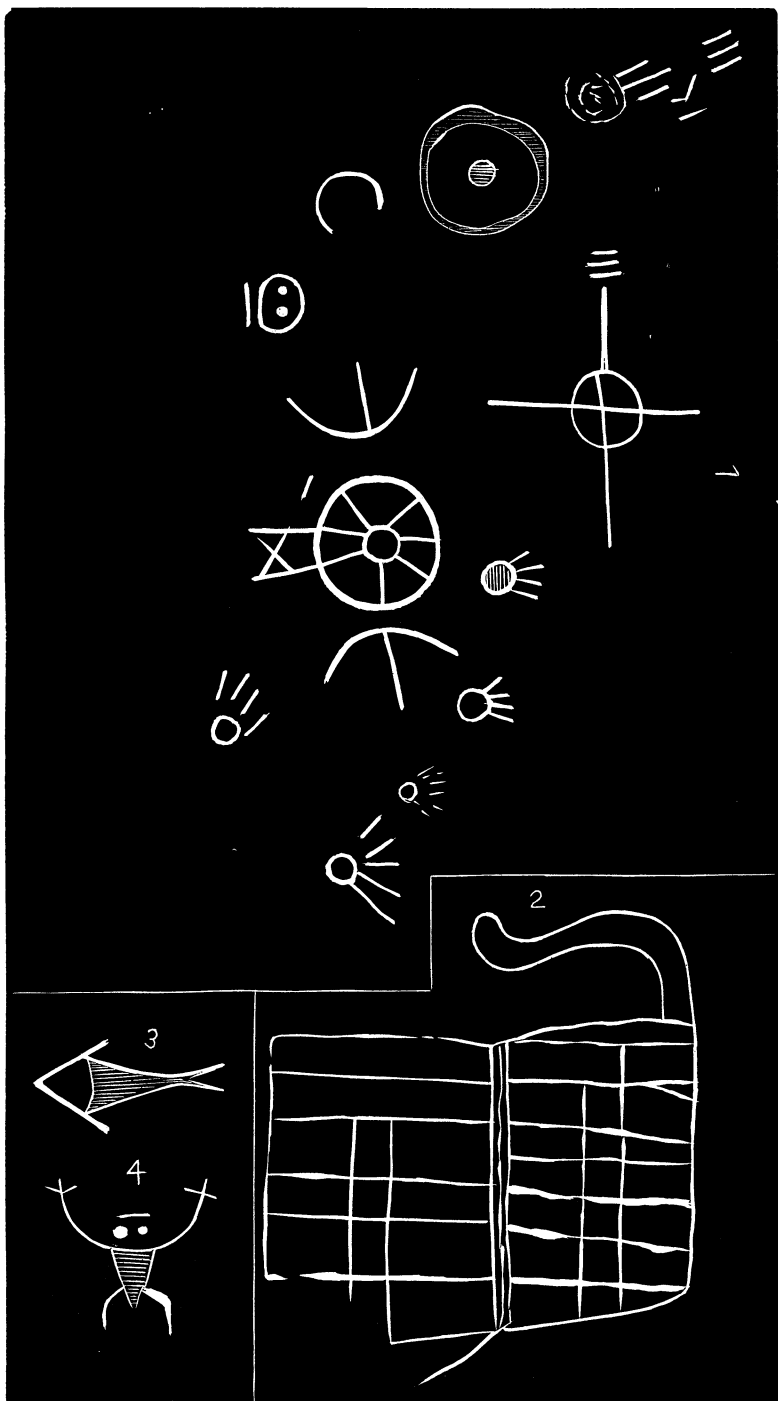
ROCK PAINTINGS AT ERÉRÉ.



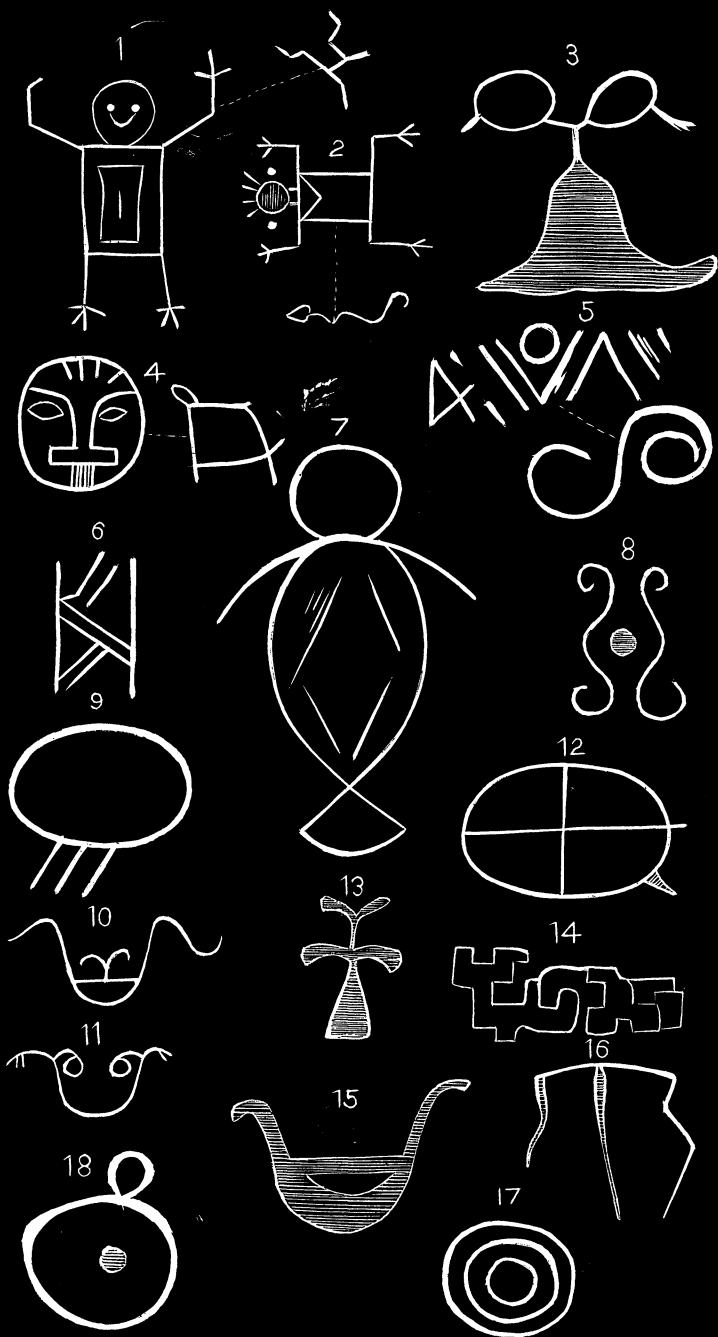
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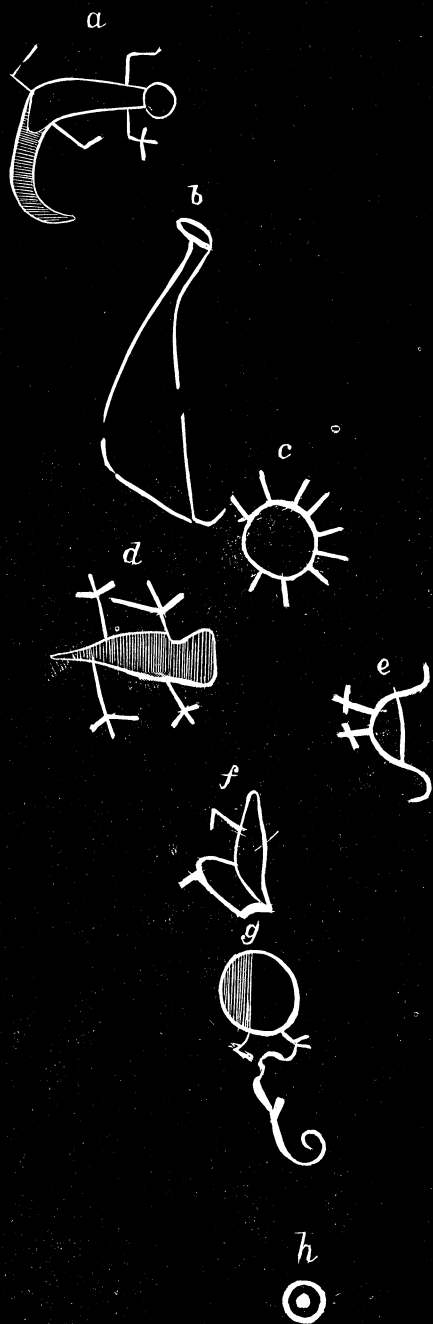
ROCK PAINTINGS AT ERERE.



ROCK INSCRIPTIONS AT ERÉRÉ.

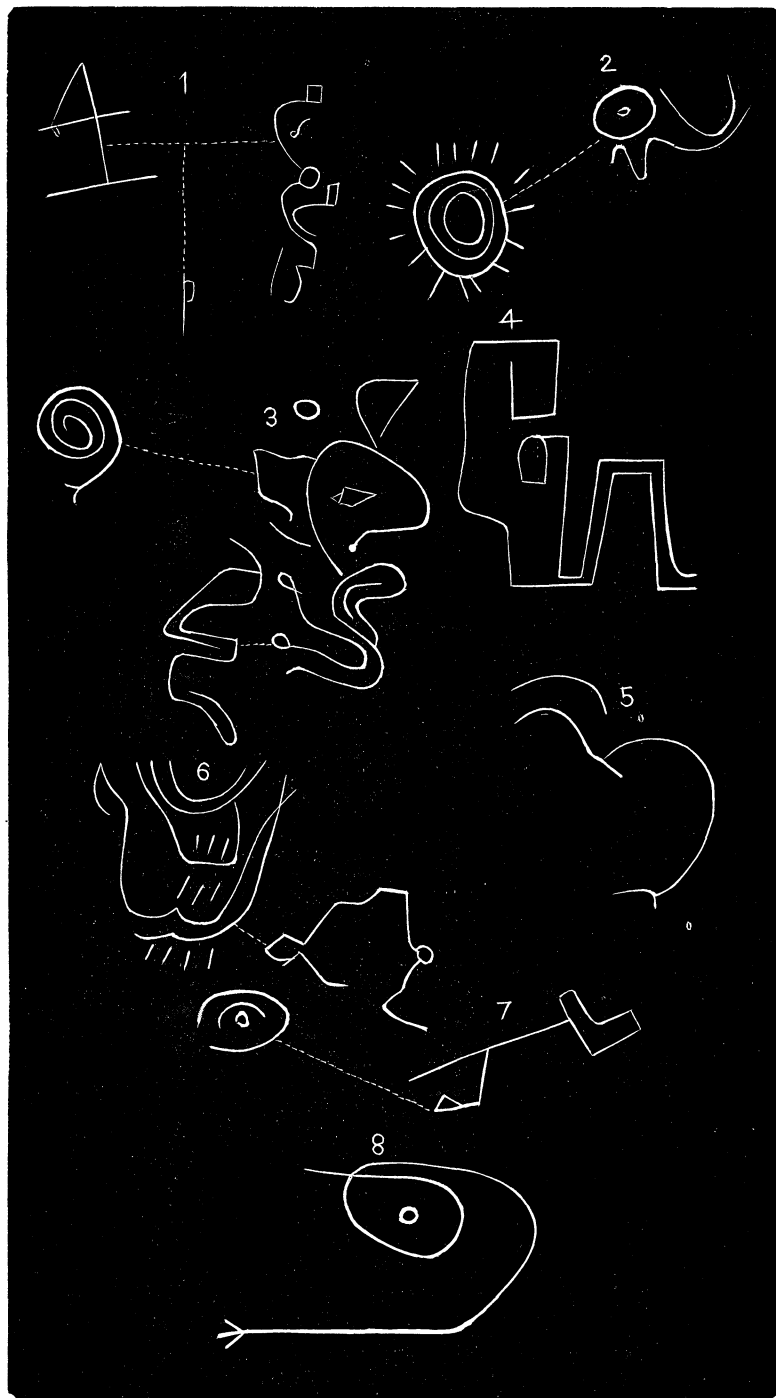


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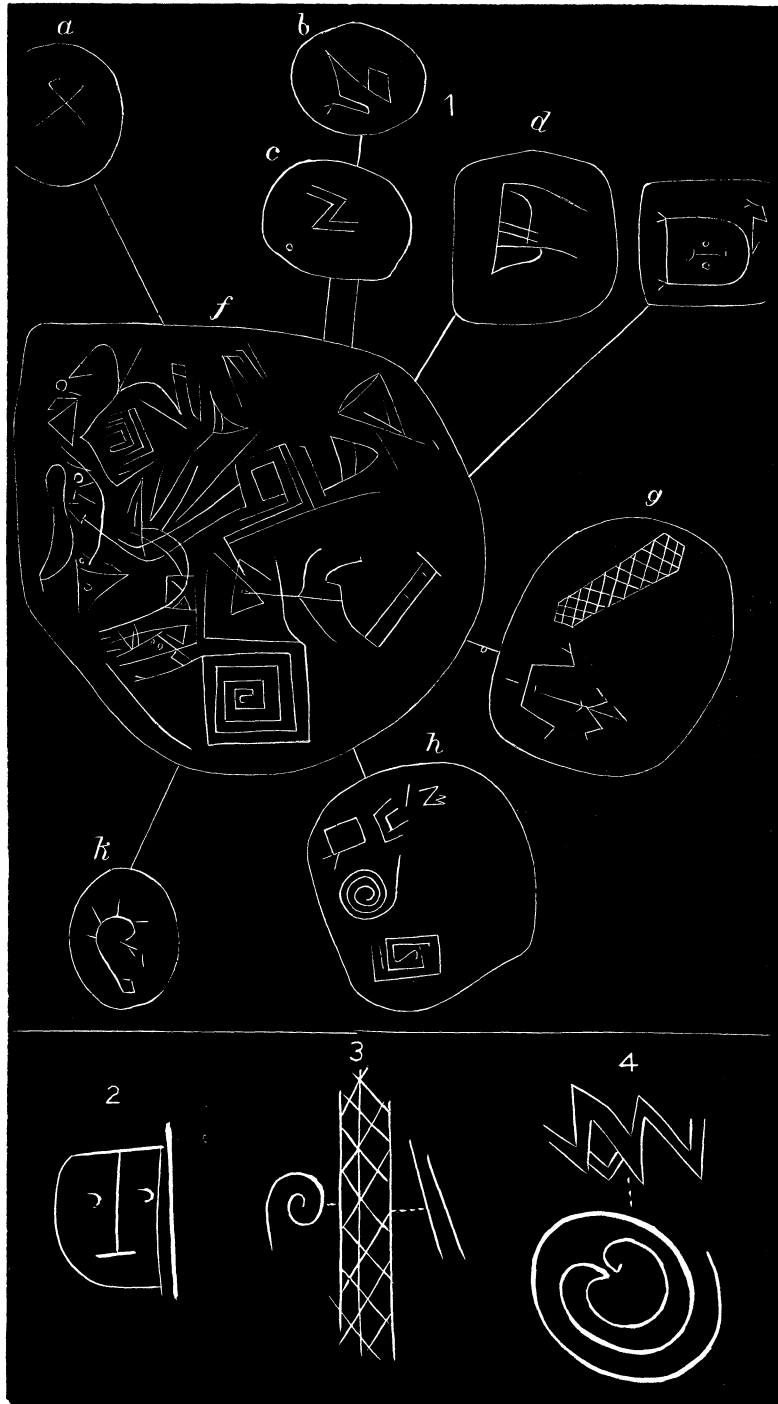


ROCK PAINTINGS AT ERERÉ.





ROCK INSCRIPTIONS. SERRA DA ESCAMA OBIDOS.



ROCK INSCRIPTIONS, MONT D'ARGENT, RIO OYAPOCK.

have attached a great importance to these natural objects, and I think that these figures point to a worship of the sun by the tribes which executed them. The clustering of the inscriptions in prominent places, and especially on and in the vicinity of the rock tower at Ereré, seems to me to indicate that these places had something of a sacred character and were often resorted to. Many of the figures seem to be the capricious daubings of visitors, as, for instance, the human faces drawn on angular rock projections. Some of the animal forms may have had a sacred character.

I know of no trace of sun worship among the uncivilized Indians of Pará to-day, nor do they make rock paintings or inscriptions. The greater part of the Brazilian Indians, such as the Tupís, Botocudos, etc., appear to have had no idea of a God, and no form of worship. We have no historical account of the practice of sun worship among the ancient Indians of the Amazonas. In the burial stations of Marajó small clay figures occur which appear to be idols. The probabilities are, that the tribes anciently inhabiting the Amazonas were more advanced in religious ideas than those Brazilian Indians of which history gives us an account.

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## DR. KOCH'S MISSOURIUM.

BY P. R. HOY, M. D.

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IN March, 1840, I visited the spot on the Pomme de Terre, Benton county, Missouri, where Dr. Koch had recently disinterred the skeleton of that large male Mastodon now in the British Museum, which the Doctor mounted and named *Missourium tetracaulodon*. Owen subsequently remounted the specimen and made a *Mastodon giganteus* out of Dr. Koch's distorted work.

The excavation was about fifteen feet in diameter and six feet deep, half filled with water. I was told by one of the men who assisted in the excavation, that they did not get all the bones out, as the water was so deep as to interfere materially with their work. So I hired a negro to go into the pit and fish about, while I from the bank, felt around with a hoe. In this way we succeeded in procuring one molar tooth, two pieces of a tusk, and